

### **REMARKS**

Claims 23-42 are pending.

In the specification, the first full paragraph on page 16 (starting with the words “The rigid and resilient elements”) was amended to correct a minor editorial error. The fixed abrasive composites were identified as 113 rather than 103. Support for this amendment can be found at, e.g., Fig. 4, and page 16, lines 5 and 18.

In the specification, the paragraph bridging pages 16 and 17 (starting with the words “Referring to Figure 5”) was amended to correct a minor editorial error. Element 126 was referred to as the rigid element rather than as the resilient element. Support for this amendment can be found at, e.g., page 16, lines 2-11; and lines 27-32, wherein the number 126 is consistently used to refer to the resilient element, and the number 128 is consistently used to refer to the rigid element.

In amended Figure 3, two sides 108 are called out. In original Figure 3 only one side 108 was called out. Support for the amendment can be found at page 7, lines 16-20.

In amended Figure 4, previously omitted elements 114 and 116 have been added. Element 114 is second surface of polishing layer 100, and element 116 is first backing surface. Support for these amendments can be found at page 15, lines 23-28.

### **§ 102 Rejections**

Claims 23-27 stand rejected under 35 U.S.C. § 102(b) as purportedly being anticipated by Pieper et al. (5,152,917).

The present invention provides an abrasive article suitable for the deposition and mechanical polishing of a conductive material. The article comprises a polishing layer having a textured surface comprising a binder and a second surface opposite the textured surface. The polishing layer further comprises a first channel extending through the polishing layer. (See, page 6, line 23 – page 7, line 28; and FIG. 3.) The article further comprises a backing having a first backing surface and a second backing surface, the first backing surface associated with the second surface of the polishing layer. The backing comprises a second channel coextensive with the first channel and extending through the backing from the first backing surface to the second backing surface. (See, page 15, line 23 – page 17, line 15; and FIG. 4 and 5.) The first channel and the second channel are dimensioned with respect to one another such that the

textured surface of the polishing layer is outside of a line of sight. (See, page 3, line 22 – page 4, line 2; page 17, line 16-24; and FIG. 7.) See also, claim 23.

Pieper fails to teach a backing comprising a channel extending through the backing from the first backing surface to the second backing surface. The Patent Office stated that the Pieper profile provided grooves and asserted that these grooves fulfilled the features of the first and second channels of the present invention. However, the Pieper grooves are transverse, i.e., in the plane of the abrasive surface. In contrast, the present invention requires a line of sight, for example, an opening with a line of sight through the backing and through the abrasive. The orientation of the channels allows material deposition onto the workpiece, whereas, the Patent Office has not shown any such feature or possibility in Pieper. Thus, the Patent Office has not shown all elements of the present invention in Pieper.

The rejection of claims 23-27 under 35 U.S.C. § 102(b) as purportedly being anticipated by Pieper et al. is unwarranted and should be withdrawn.

### **§ 103 Rejections**

Claims 23-33 and 36-40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rutherford et al. (5,692,950) in view of Pieper et al. (5,152,917).

As discussed above, Pieper fails to teach a backing comprising a channel extending through the backing from the first backing surface to the second backing surface. The Patent Office acknowledges that Rutherford fails to disclose a first channel in the polishing layer with a corresponding second channel in the backing. Thus, Rutherford fails to correct the deficiency in Pieper and all elements of the present invention are not described, taught or suggested in the Patent Office's combination.

For at least this reason, claim 23 is patentable over Rutherford in view of Pieper. Claims 24-33 and 36-40 each depend, directly or indirectly from claim 23. Thus, claims 24-33 and 36-40 are likewise patentable over Rutherford in view of Pieper.

The rejection of claims 23-33 and 36-40 under 35 U.S.C. § 103(a) as purportedly being unpatentable over Rutherford et al. in view of Pieper et al. is unwarranted and should be withdrawn.

Claims 34, 35, 41 and 42 stand rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Rutherford et al. (5,692,950) in view of Pieper et al. (5,152,917) as applied to claims 23-33 and 36-40 above, and further in view of Barber, Jr. (6,179,887).

As discussed above, Pieper fails to teach a backing comprising a channel extending through the backing from the first backing surface to the second backing surface. The Patent Office acknowledges that Rutherford fails to disclose a first channel in the polishing layer with a corresponding second channel in the backing.

The Patent Office asserts that Barber describes an abrasive article, which comprises through holes for mounting the article onto an assembly. The Patent Office's proffered motivation for combining Barber with Rutherford was to allow the abrasive article of Rutherford to be mounted. However, if bolts were placed in the mounting holes such an article would not provide a line of sight as required in the present invention, as the holes of Barber would be occluded by the mounting hardware. Alternatively, if bolts were not used, it would defeat both the purpose of the holes in Barber and the Patent Office's proffered motivation to combine the references. Thus, either this combination fails to describe, teach or suggest all of the elements of the present invention (e.g., a line of sight), or the claimed combination would render the reference (Barber) inoperable for its intended purpose. In either case, the Patent Office has failed to meet its burden for establishing a *prima facie* case of obviousness.

For at least this reason, the rejection of claims 34, 35, 41 and 42 under 35 U.S.C. § 103(a) as purportedly being unpatentable over Rutherford et al. in view of Pieper et al. and further in view of Barber, Jr. is unwarranted and should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Allowance of claims 23-42, as amended, at an early date is solicited.

Respectfully submitted,

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